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PROGRESS REPORT

of the

FOREIGN DEVELOPMENT AND TRADE DIVISION

ECONOMIC RESEARCH SERVICE

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This progress report is primarily a tool for use of scientists and administrators in program coordination, development and evaluation; and for use of advisory committees in program review and development of recommendations for future research programs.

The summaries of progress on USDA and cooperative research include some tentative results that have not been tested sufficiently to justify general release. Such findings, when adequately confirmed, will be released promptly through established channels. Because of this, the report is not intended for publication and should not be referred to in literature citations. Copies are distributed only to members of Department staff, advisory committee members and others having a special interest in the development of public agricultural research programs.

This report also includes a list of publications reporting results of USDA and cooperative research issued between July 1, 1967 and June 30, 1968. Current agricultural research findings are also published in Agricultural Economics Research; Foreign Agricultural Trade of the United States; and Foreign Gold and Exchange Reserves. This progress report was compiled in the Foreign Development and Trade Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C.

UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D.C.

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INTRODUCTION

Foreign development and trade research is concerned with four areas: effects of foreign economic development on agriculture; appraisal of agricultural export programs and market development; international monetary and trade analysis; and the analysis and evaluation of United States and world agricultural trade.

Research on foreign economic development and trade is carried out in the Foreign Development and Trade Division of the Economic Research Service of the U.S. Department of Agriculture. During the period of this report--Fiscal 1968--approximately 26.0 scientist manyears were devoted to research in the areas of foreign economic development and trade research, distributed as follows: 9.1 to Effects of Foreign Economic Development on Agriculture; 1.2 to Export Programs and Market Development; 9.0 to International Monetary and Trade Research; and 6.7 to Trade Statistics and Analysis.

The research emphasizes the appraisal and evaluation of the economic implications of policies and programs of the United States and other countries on our foreign trade in farm products and the efficient use of our excess food production and other resources in economic development abroad. The information flowing from this research is employed in the formulation of national policies, positions, and programs in the area of foreign agricultural marketing, foreign economic development, and foreign agricultural trade.

HIGHLIGHTS OF THE DIVISION'S RESEARCH ACCOMPLISHMENTS

Recent Trends in U.S. Agricultural Exports, Price Changes, and Foreign Trade Outlook: Continuing analysis of the current status of and outlook for U.S. agricultural exports reveals that exports for fiscal year ending June 30, 1968 declined for the first time in 5 years. They totaled \$6.3 billion, compared with exports of \$6.8 billion in 1967/68. However, they were 4 percent above the 1964/65 total and 16 percent above the 1961-65 average. Declines ranged from slight for oilseeds and oilseed products, grains and preparations and vegetables to substantial for animals and animal products, cotton, tobacco, and fruits. Individual commodities for which export quantities rose to new record levels in 1967/68 were rice, soybeans and oilcake and meal.

Exports under Government Programs (including barter) totaled \$1.5 billion in 1967/68, about the same as the previous year, accounting for 24 percent of total U.S. exports.

Commercial sales in 1967/68 declined some \$400 million from the previous year to \$4.8 billion, of which an estimated 15 percent received some form of export payment assistance.

U.S. agricultural exports to the EEC totaled \$1,403 million in fiscal year 1967/68, down from \$1,516 million a year earlier.

Approximately 71 million acres were required to produce the agricultural commodities exported in fiscal year 1968, up one-fourth from the 1958/60 average.

A considerable part of the overall decline in the value of agricultural exports was due to lower prices. While the aggregate value fell by 7 percent in 1967/68, the decline in quantity or volume was less than 2 percent. A new monthly feature, "Selected Price Series of International Significance," was begun in 1968. The 10 Price Series so far reported are mostly foreign c.i.f. prices selected on the basis of their importance to U.S. farm exports. The quotations pertain to carefully specified types, grades, and locations for each commodity and portray price changes in important farm commodities in world trade.

Effect of Variable Levy System on EEC Commodity Imports: EEC commodity imports for the period 1963/66 have been analyzed in terms of market shares, quantity, and trade. Changes have been compared with trends which occurred in the previous decade (1953/62). The upward trend in the U.S. market share for all commodities that occurred from 1953/62 continued over the period 1963/66. For commodities subject to variable levies, the rate of increase in the U.S. market share during 1963/66 was slightly lower than during 1953/62, while the shares for grain-livestock commodities free from levy assessments were above trend, on the average.

World Trade in Selected Agricultural Commodities, 1951/65: Research on world agricultural trade show that the volume of total world agricultural trade grew faster (3.5 percent per year) than world population (2.0 percent) and per capita income (1.0 percent). The volume of world trade in the principal agricultural commodities increased faster than total world agricultural trade from 1951/65 with the exception of textile fibers which increased 3.1 percent per year. Growth in world trade in cereals led at 6.2 percent, while close behind were sugar, fruits, and vegetables at 5.7 percent and oilseeds, and animal and vegetable oils at 5.6 percent per year. Beverage crops increased at an annual rate of 3.7 percent--or slightly faster than total world agricultural trade.

Effects of Japanese Food Policies on Grain Imports: Current research on Japan's food strategy and its effect on U.S. grain imports outlines major food policy alternatives available to Japan in the coming decade. It suggests that each alternative food strategy would have a widely different impact on the amounts and types of Japanese grain imports. A food strategy leading to an average Japanese diet of 2,800 calories a day in the 1980's would require much less imported grain than a diet of 3,000 calories, since the different calorie totals accompany different mixtures of foods.

The Japanese Grain Import Market: An econometric model developed to analyze the Japanese food-feed grain-livestock economy indicates a continued expansion in grain import demand. Projected growth in G.N.P. of 8 percent annually through 1980, paired with a relatively low rate of population growth of 0.9 percent, indicates increased affluence on a per capita basis. This is expected to result in continued growth in demand for livestock products as well as grain derived beverages such as saki and beer, and industrial products derived from corn. The projected increases in the demand for food and feed grains, along with the projected decline in production of all grains except rice, results in a greatly expanding potential market, subject however to Japanese Government import policies. According to the study, the U.S. can be expected to maintain approximately 50 percent of an expanding Japanese wheat and feedgrain market over the long-run to 1980, provided a world surplus in these commodities does not develop.

Changes in Agricultural Production in Selected Developing Countries: Total crop output in 17 developing nations increased from 30 to 300 percent during the 1948/65 period. Of the 17 countries, Nicaragua tripled crop output, while that in Guatemala, Guyana, Jamaica, and Syria doubled. Paraguay, Morocco, and Senegal increased crop output by 67 percent. Bolivia, the Dominican Republic, Honduras, Peru, Malagasy Republic, Mauritius, and Ceylon increased crop output by at least 50 percent. On a per capita basis, changes were less dramatic, but in 5 countries growth in per capita output measured 2 percent or more per year; in four countries, output increased 1 to 1.9 percent per year. In 12 of the 17 countries, it was possible to determine principal sources of change. In 7 of the countries, increased land area was responsible for the increased output while in the other five, the source was higher yields. There was no overall tendency towards specialization, but in Nicaragua, Guatemala, and Syria a noticeable shift towards cotton was observed.

Changes for individual crops were mixed. Maize declined in relative importance in 11 of 17 countries. Rice output increased in 10 countries and decreased in six. Sugar became more important in eight of 12 producing countries, and oilseed output grew in 10 of 12 producing countries.

Agricultural Export Contributions to U.S. Balance of Payments: The net contribution of agricultural merchandise trade to the balance of payments in 1967 amounted to \$939 million, down from \$1,156 million in 1966, but still approximating the \$1.0 billion a year norm prevailing over the past four years. The \$160 million increase during 1967 in dollar returns and savings on noncommercial exports helped to offset the \$415 million decline in commercial exports. Imports during the year declined by only \$37 million. In the first quarter of 1968, commercial exports and returns on noncommercial exports were running well ahead of their first quarter 1967 levels. With only a marginal increase in agricultural imports, the net contribution to the balance-of-payments in the first quarter of 1968 was up by approximately 50 percent to \$153 million over the first quarter of 1967.

I. EFFECTS OF FOREIGN ECONOMIC DEVELOPMENT ON
AGRICULTURE

USDA Program

Location of Intramural Work	Scientist Man-Years FY-1968		
	Research Problem Area		Total
	601	603	
Washington, D.C.	0.8	3.2	4.0
Taiwan	---	.1	.1
Mexico	---	1.0	1.0
Nigeria	---	1.0	1.0
Brazil	---	1.0	1.0
India	---	1.0	1.0
Colombia	---	1.0	1.0
Total	0.8	8.3	9.1

Intramural program is supported by extramural support representing (a) 0.0 SMY's at State Agricultural Experiment Stations, (b) 0 SMY's at other U.S. institutions, and (c) P.L. 480 funds in 3 countries representing 76,424 U.S. dollar equivalents.

AREA I--EFFECTS OF FOREIGN ECONOMIC DEVELOPMENT ON AGRICULTURE

Problems and Objectives:

The U.S. Government is assisting, through AID, multilateral projects, and international agencies, in the development of many low income countries. U.S. interests are diverse, including political, social, altruistic and economic, and U.S. farmers have special interests relating to the effects of trade and development on foreign markets. Development of the agricultural sector is basic to the economic growth of these countries where over 50 percent of the population is rural, a third or more of the national income is generated in agriculture, and agricultural products provide the major opportunity for trade. Research to identify effective measures to stimulate development will provide guides for programming and implementing assistance programs. Increased trade is dependent upon effective world demand for specific products. Increases in imports associated with growth results in changes in the composition of agricultural imports. Research in this area is important in planning U.S. production and trade development.

Objectives of this Area include:

1. Describe and compare changes and differences in levels of agricultural output and input and to measure the productivity of important input factors in the agricultural sector; identify major inputs and institutional factors accounting for differences in levels and rates of change in output and productivity; identify and evaluate the forces that led to changes in the level and combination of inputs used; construct general models for improved resource use and institutional arrangements for designing development plans and programs to increase agricultural output and productivity.
2. Determine agriculture's contributions to economic growth, and the relationship of these contributions to the types of development programs appropriate at different stages of growth.
3. Measure the volume and composition of imported agricultural products that occur at progressive levels of development as determined, for example, by levels of per capita incomes, and draw implications to shifting patterns of trade for U.S. agricultural products.
4. Project regional and total world demand for the agricultural products characteristic of developing countries as a basis for evaluating the validity of national development plans and establishing investment priorities.

5. Evaluate, approve, and monitor research grants under P.L. 480 in selected countries.

Progress - USDA Program

RPA 603- TECHNICAL ASSISTANCE TO DEVELOPING COUNTRIES

A. Role of Agriculture in Foreign Economic Development and Growth

Statistical methods of measuring rates of economic growth were reviewed, developed, and analyzed and the results were made available for internal use.

B. Factors Associated with Changes in Agricultural Output and Productivity

Information on growth in agricultural output in 17 countries was analyzed and published, bringing to a total of 43 the number of countries for which such information has been developed. In general, growth in crop output per capita was low, less than 2 percent per year in nine countries, and it actually declined in three. Changes in area of crops harvested, crop yields, and crop composition were all important factors in growth.

1. Greece-The basic production and other data series which were originally collected through 1963 were up-dated through 1967. These data are being processed and incorporated in the final report.

2. Taiwan-The study was completed with the publication of the final report. Increases in agricultural productivity contributed substantially to the 7.6 percent growth rate of national income since the early 1950's. Total agricultural output increased at 4.5 percent. Gains in output per hectare, per worker, and per unit of all resources combined account for more than half of the growth in agricultural output. Taiwan's development strategy was a multi-phase approach to which land reform, reorganization of farmers' associations and cooperatives, and agricultural development planning were basic.

3. Mexico-Activity was concentrated on developing an aggregate production function to measure sources of regional differences in production, based on data obtained from 2,000 unpublished country-level summaries of Agricultural Census. Apparently Mexican land reform has resulted in a dichotomy in the structure of Mexican agriculture, such that the returns to labor are lower in the "ejido" sector than in the private sector. Rapid growth in production and productivity, and modernization of agriculture, are concentrated in the new large irrigation projects.

4. Nigeria-The data collected over a period of almost two years were lost in civil strife within the country. To capitalize on the research experience, mostly in Eastern Nigeria, an analysis of relevance of land tenure to development problems is being prepared. Such a report should be of value as the slash-and-burn practice combined with the complex family and village structure

is common to much of the humid tropics in Africa. Also land tenure is considered to be a serious limiting factor, real or potential, to development throughout the area.

5. Brazil-The collection of data was completed in February 1968, and the final report is being written in Washington. A series of 34 tables have been constructed analagous to the basic tables in the 26-country study. Under a contract, growth data are being processed at the University of Wisconsin, to determine growth rates and sources of change. Results show the overall annual growth in agricultural output at 4.6 percent, with great variations among states; e.g., 3.0 percent in Sao Paulo and 10.8 percent in adjoining Paraná. Crop yields have increased by only 1.0 percent, so major changes are apparently in land area and in composition. Under another contract, with the University of Rio Graude de Sul, the basis for explaining variations in levels of output and productivity within and among farming communities is being determined. Somewhat unexpectedly, the study is describing processes in the maturation of frontier areas--an important aspect of Brazilian agricultural development.

6. India-A report on agricultural development has been drafted. A by-product of the Indian study was an analysis prepared for USAID/India as a basis for programming requirements for increasing India's food grain production from 1967-68 to 1970-71 at a yearly growth rate of 5 percent. The first of a series of studies analyzing regional differences within states, being developed largely by Indian economists who are co-workers on this project, was published, for the Punjab. A similar report for Madras was submitted for review.

7. Colombia-Data on agricultural production, crop areas and yields were assembled into a report for review. Agreement was reached in Colombia on these data as the best historical series available and they are being used in the Ministry of Agriculture. The data show that most of the growth in production over the study period has been in the major commercial crops that are produced on fairly large farms with modern technology. Coffee, the major export crop, is produced on small farms and is treated as a special case. Under a contract, ICA has assembled experimental yields for seven commodities for various regions within the country, and corresponding experience data are being collected from representative farmers. Comparisons will indicate the significance of existing new technology available for adoption.

C. Demand Prospects for Agricultural Exports of Less Developed Countries

Trade flow matrices for selected agricultural commodities were completed for publication in a series of five reports. A world trade and demand model for making projections to 1980 for exports of selected commodities produced by less developed countries is being formulated. The initial model is concerned with grains, but will be adaptable to other commodities.

D. International Implications of Foreign Competition in Winter Fruits and Vegetables

A survey of producers was conducted in Mexico with FPED and MED, to determine cost elements in the production of tomatoes, cantaloupes, bell peppers, cucumbers, egg plants, and strawberries. Secondary sources supplied information on land availability, labor supplies, and development plans. A descriptive and analytical report is in preparation.

E. Research Grants Under P.L. 480

Grants supported 14 research projects in foreign countries during the year ending June 30, 1968. Of these, 4 were completed during the year and 10 remained active. At the end of the year, 15 were approved by ERS with negotiation pending, 6 were pending and about 15 were rejected.

F. Effects of Foreign Economic Development on Demand for U.S. Farm Products

The relationship between economic growth and trade, or the ability of countries to import as they undergo economic growth, has been analyzed. The analysis is designed to measure percentage compositional changes and income elasticities for imports. Preliminary results indicate an increasing marginal propensity to import more expensive foodstuffs such as meats, and feeds and fodders to support domestic livestock production. At the same time import demand for staples increases, but at a slower rate.

Publications- Reporting Results of USDA Research

RPA 603- FACTORS ASSOCIATED WITH CHANGES IN AGRICULTURAL
OUTPUT AND PRODUCTIVITY

Schaub, John R. and Krause, Stanley F., "Growth of Crop and Livestock Output in Selected Developing Nations, 1948 to 1965," ERS, USDA, ERS-Foreign 226, April 1968.

Christensen, Raymond P., "Taiwan's Agricultural Development: Its Relevance for Developing Countries Today," ERS, USDA, For. Agr. Econ. Report No. 39, April 1968.

Hertford, Reed, "The Development of Mexican Agriculture: A Skeleton Specification," Journal of Farm Economics, Vol. 49, No. 5, December 1967, p. 1171.

Hendrix, William E., Naive, James J., Adams, Warren E., "Accelerating India's Food Grain Production 1967-68 to 1970-71: Requirements and Prospects for a Yearly Growth Rate of 5 Percent," ERS, USDA, Fgn. Agr. Econ. Report No. 40, March 1968.

Mackie, Arthur B., "World Trade in Selected Agricultural Commodities, 1951-65, Vol. I--Beverage Crops: Coffee, Cocoa, and Tea," ERS, USDA, Fgn. Agr. Econ. Report No. 42, June 1968.

Mackie, Arthur B., Filippello, A. Nicholas, Hutchison, John E., Keefer, James F., "World Trade in Selected Agricultural Commodities, 1951-65, Vol. II--Food and Feed Grains: Wheat, Rice, Maize, Barley, and Other Cereals," ERS, USDA, Fgn. Agr. Econ. Report No. 45, June 1968.

Mackie, Arthur B., "World Trade in Selected Agricultural Commodities, 1951-65, Vol. III--Textile Fibers: Cotton, Jute, and Other Vegetable Fibers," ERS, USDA, Fgn. Agr. Econ. Report No. 43, June 1968.

Mackie, Arthur B. and Blum, J. Lawrence, "World Trade in Selected Agricultural Commodities, 1951-65, Vol. IV.--Sugar, Fruits, and Vegetables," ERS, USDA, Fgn. Agr. Econ. Report No. 44, June 1968.

Mackie, Arthur B., Full, Tom E. and Falck, Jon E., "World Trade in Selected Agricultural Commodities, 1951-65, Vol. V.--Oilseeds, Oil Nuts, and Animal and Vegetable Oils," ERS, USDA, Fgn. Agr. Econ. Report No. 47, August 1968.

"Mexico: The Patient Revolution," The Farm Index, May 1968.

II. EXPORT PROGRAM AND MARKET DEVELOPMENT

USDA Program

Location of Intramural Work	Scientist Man-Years FY 1968	
	Research Problem Area	Total
	602	
Washington, D.C.	1.2	1.2
Total	1.2	1.2

Intramural program is supported by extramural support representing (a) 0.0 SMY's at State Agricultural Experiment Stations, (b) 0 SMY's at other U.S. institutions, and (c) P.L. 480 funds in 3 countries representing 76,424 U.S. dollar equivalents.

AREA II--EXPORT PROGRAMS AND MARKET DEVELOPMENT

Problems and Objectives:

The analysis and evaluation of Government export programs and their implications is needed for the purpose of facilitating the exports of U.S. agricultural commodities. As emphasis is placed on programs to increase food production in the food deficit countries, more care will be required in programming food aid to avoid disruption of commercial trade and interference with agricultural production plans in recipient countries.

Objectives of this Area include:

1. Determine how food aid can best contribute to economic development of recipient countries and assist in "self-help" programs.
2. Appraise interrelationships of domestic agricultural programs and U.S. export programs.
3. Analyze the relative cost and benefits of alternative government export programs.
4. Appraise efficiency of food nutrient sources and prepared food products for improving nutritional levels.

Progress - USDA Program

RPA 602- EVALUATION OF FOOD AID PROGRAMS

A. Impact of Food Aid in Recipient Countries and Its Role in Economic Development

A manuscript on "Food Aid and Economic Development" was prepared and submitted for publication. This study evaluates the impact of agricultural exports under P.L. 480 on agricultural production in six major recipient countries and gives particular attention to the contribution of food aid to agricultural development, the effects of P.L. 480 imports on domestic agricultural prices, and how agricultural commodity imports have assisted poultry and livestock enterprise development.

B. Interrelationships of Domestic Farm Programs and U.S. Commercial Export and Food Aid Programs

Import results derived from contract research and analyses made by the Economic Research Staff were reported in major papers presented during the year. These papers covered such topics as world food production trends; changing

emphasis of food aid programs; increasing volume of world grain exports; U.S. grain exports by major port areas; trade barriers and trade policy issues; and short and long term export prospects.

C. Economic Appraisal of Food Nutrient Sources and Comparative Costs

Principal sources of plant proteins have been identified and world production of grain and oilseeds and their protein content have been compiled. Data on nutrient composition of various sources have been collected as a basis for developing cost estimates.

Publications - Reporting Results of USDA Research

RPA 602- EVALUATION OF FOOD AID PROGRAMS

Barlow, Frank D., Jr. and Libbin, Susan A. A Chapter on "International Grain Marketing, Pricing, and Trade Policies." Published in Marketing Grain, North Central Regional Research Publication No. 176, Purdue University, Agricultural Experiment Station, Lafayette, Indiana, pp. 141 to 201, January 1968.

Barlow, Frank D., Jr. "Foreign Market Potentials for U.S. Agriculture with Particular Reference to Soybeans." Talk presented at the 12th Annual Tri-State Soybean Forum, Greenville, Miss., 22 pp., January 26, 1968.

III. INTERNATIONAL MONETARY AND TRADE RESEARCH

USDA Program

Location of Intramural Work	Scientist Man-Years FY 1968			
	Research Problem Area			Total
	601	602	603	
Washington, D.C.	5.1	1.5	2.4	9.0
Total	5.1	1.5	2.4	9.0

Intramural program is supplemented by extramural support representing (a) 0 SMY's at State Agricultural Experiment Stations, (b) 0 SMY's at other U.S. institutions, and (c) P.L. 480 funds in 2 countries representing 61,948 U.S. dollar equivalents.

AREA III--INTERNATIONAL MONETARY AND TRADE RESEARCH

Problems and Objectives:

Agricultural exports have a significant influence on the U.S. balance of payments. Knowledge of the effects of foreign country financial and monetary conditions, the impact of agricultural and trade policies of individual nations and regional country groupings, and the major economic forces affecting production and consumption of agricultural products is essential to identify and exploit export opportunities for U.S. farm products. This knowledge is also required in order to develop appropriate programs for assisting less developed countries in meeting their food needs and in accelerating progress in developing their economies.

Objectives of this Area include:

1. Evaluation of the contribution of U.S. agricultural trade, including P.L. 480 transactions, to the balance of payments.
2. Analysis of the financial position of P.L. 480 recipient countries to provide the bases for determining appropriate terms for repayment.
3. Analysis of the economic forces affecting the future market for meat and/or grains and other feedstuffs in the European Community and the potential of U.S. for competing in this market.
4. Analysis of the effects of regional trade groups of countries on international trade.
5. Appraisal of demand prospects for products exported by less developed countries.
6. Determination of the impact of trade barriers on world agricultural trade and particularly on U.S. exports.

Progress - USDA Program

RPA 601- EXPANSION OF FOREIGN MARKETS FOR U.S. FARM PRODUCTS

A. Monetary Developments and U.S. Agricultural Trade

1. U.S. Agriculture and The Balance of Payments--Annual data for 1960-1967 and quarterly data for 1966-1967 have been compiled and published. Total agricultural and nonagricultural exports and imports have been analyzed on a balance of payments basis as well as a commercial, noncommercial breakout of exports. Noncommercial agricultural exports are available by program. The dollar returns or savings to the balance of payments from noncommercial

agricultural exports have been derived by the source or type of return--credit repayments by program, including P.L. 480, and local currencies used abroad in lieu of dollars.

This research provides a basis for estimating future contributions by the agricultural sector toward improvement in the U.S. balance of payments position, and the identification of the relative contributions of agricultural and nonagricultural trade in the balance of payments accounts.

2. Financial and Monetary Development in U.S. Markets--Special studies on financial and monetary aspects of international and foreign agricultural programs were developed to assist in determining U.S. agricultural and trade policies. Trends in economic growth rates, world trade and reserves of the countries that purchase U.S. agricultural products were analyzed for 1967 and presented in the June 1968 issue of Foreign Gold and Exchange Reserves. Special attention was given to the impact on U.S. trade of the November 1967 devaluation in Great Britain and the gold problem which developed in early 1968.

B. Regionalization and U.S. Trade

1. Potential Meat and Grain Trade of the European Economic Community--Per capita meat consumption in the European Economic Community was projected to 1970 and 1975 under assumed increases of consumer expenditure, and changes in meat prices and consumer prices in general. The prospective changes for individual meats were evaluated by considering likely changes in relative prices resulting from production situations and policy developments. An intensive study of grain feeding rates for each major livestock category was made to provide a basis for projecting feed grain requirements for EEC livestock production under assumed rates of self-sufficiency in meats and other livestock products. The research is being expanded to achieve greater precision in identifying the role of individual energy source feeds and to incorporate protein feed requirements. The study is developing analytical procedures while providing useful information on prospective demand for U.S. agricultural exports.

2. Changes in EEC Imports of Commodities Affected by the Variable Levy System--Changes in EEC trade flows for commodities subject to variable levies were analyzed for the purpose of evaluating changes occurring since the introduction of the Common Agricultural Policy. Data on EEC imports of selected commodities for 1952-66 were compiled and arranged to show the absolute volume and market share for intra-Community trade, imports from the United States and from other countries. Trend lines were calculated for the 10 years preceding the CAP in order to compare post-CAP trade developments with the trend in earlier years in addition to comparisons with a base period.

3. Economic Integration of the Fertilizer Sector in Latin America--An evaluation was made of the possibilities for sectoral integration because many proponents of Latin American integration argue that the most promising

approach to economic integration is to proceed by individual product sectors. The fertilizer sector was selected because of its relationship to agricultural development and the potential impact of progress in this area on increased agriculture production and its effect on general economic development and implications for U.S. agricultural product exports. The study concludes that many of the pre-conditions exist for progress in integration of the fertilizer sector but that infrastructure improvements must be made concurrently and that many obstacles are arising in the form of efforts to develop the industry on a national scale.

4. Potential EEC Agricultural Production Changes and Imports of Grain and Livestock Products--A contract with Michigan State University provided for a detailed study of the feed-livestock economies of the member states of the European Economic Community. This project was completed during fiscal year 1968. The Contractor has issued five publications covering Germany, Italy, France, regional grain and livestock prices in the EEC and the EEC grain-livestock economy and trade patterns. Changing factors that lead to adjustments in production and import demand for grain and livestock products in the EEC were identified and evaluated. Potentials for and factors affecting production adjustments were considered for individual regions within member countries to take account of relevant alternatives available to producers as dictated by resource availabilities. Demand was analyzed under conditions of projected income and population growth. Projections on prices, production, consumption and imports for 1970 and 1975 were made. The reports provide an assessment of the economic impact of the Common Agricultural Policy and much information useful to Department personnel in evaluating the effects of future policy changes.

5. Oilseed Product Needs of the European Economic Community, 1970--A detailed report of a contract study on the import demand for oilseed and oilseed products in the European Economic Community was published. Projections for 1970 are that oilmeal consumption in the Community will be 55 to 70 percent greater than in 1962-63. About 55 percent of the projected level of oilmeal consumption of 8.2 to 8.8 million metric tons is expected to be soybean meal compared with the 1962-63 percentage of 40 percent. Soybean meal is expected to supply practically all of the increased oilseed meal requirements for hog and poultry production but less than half of the increased oilmeal consumption for milk and beef and veal production. Net import requirements are projected to increase from 5 million metric tons in 1962-63 to about 8 million tons in 1970.

6. Effects of Changing Trade Systems in Latin America on U.S. Agricultural Exports--A contract is in effect with Florida Agricultural Experiment Station for an evaluation of the progress being made toward integration by the Latin American Free Trade Association and the Central American Common Market and an assessment of the likely effects on U.S. agricultural exports.

Progress reports on the first two phases of the project have been submitted by the Contractor. In the first report, the current status of integration

is identified and the forces helping or hindering integration are discussed. This report provided useful information to other researchers and to officials of the Department in evaluating policy issues relating to trade and development in Latin America.

The second report expanded and updated the description of institutions, described member countries pricing and other governmental arrangements in international trade, compiled historical supply and demand and trade data and developed tentative projections for these series to 1980. These are being refined further to be used as a basis for an assessment of the probably impact of the changing trade systems in the Latin American Free Trade Association and the Central American Common Market.

7. Effects of the Proposed CAP for Tobacco on Production and Trade in the Community--This paper examines the provisions of the proposals for a common market organization for tobacco in the EEC and their implications for production in the Community and the possible impact on the market for U.S. tobacco.

8. The Agricultural Market of the European Free Trade Area--Work progressed on a review of the trading arrangements developed by member countries of the European Free Trade Association under the impetus of expanding the benefits of the Association to agriculturally oriented members. Trade and production trends are examined with particular attention to the effects on imports of agricultural products from the United States.

C. Trade Policies and Demand Relationships

1. European Community's Common Agricultural Policy--Work on this study was initiated at the request of The Office of the Special Representative for Trade Negotiations (STR). The basic features of the Common Agricultural Policy (CAP) for major agricultural commodities are being examined as well as the evolution of policies and prices. Production and utilization developments are being reviewed and trade data analyzed to identify changes brought about by the CAP in value and origin of EEC agricultural imports, magnitude and destination of exports and possible impact on trade among non-member countries. The report is to provide STR with information and analyses to assist that office in conducting a comprehensive study of U.S. foreign trade policy.

2. Non-Tariff Trade Barriers--A review was conducted jointly with the Foreign Regional Analysis Division and the Foreign Agricultural Service on agricultural protectionism by non-tariff trade barriers in major developed countries. Work was initiated to more adequately identify and describe the many varied and complex practices in force in world agricultural markets that interfere with trade in farm products. Preliminary work involves the compilation of non-tariff barriers, by commodity, to be used in subsequent analysis and measurement of the degree of protection.

3. World Import Demand for Meat--Work is proceeding on a cross-section analysis of meat consumption, country by country, throughout the world. The

pattern of world meat production is also being analyzed to serve as a basis for an in-depth study of world trade flows of meat.

RPA 602- EVALUATION OF FOOD AID PROGRAMS

A. Analysis of External Financial Conditions in P.L. 480 Recipient Countries

Numerous special studies were made of the financial position of countries under consideration for P.L. 480 programs as a basis for determining the programs' financial terms. A report on the external financial position of foreign countries was prepared for circulation within the Department. The report grouped 72 countries into one of four categories - excellent, good, fair or poor - and discussed the causes of rating changes which have occurred.

RPA 603- FOREIGN AGRICULTURAL DEVELOPMENT RESEARCH

A. Demand Prospects for Agricultural Exports of Less Developed Countries

1. World Import Demand for Feed Grains--Work progressed on an analysis of the import demand for feed grains. The first segment of this analysis was the completion of a detailed econometric study of the food grain--feed grain--livestock economy of Japan, a major market for feed grains with prospects for further significant expansion. This study disaggregates the livestock sector into beef, pork, chicken, eggs, milk and milk products; and the grain sector into rice, wheat, barley, and other coarse grains; and includes fish in the analysis as an important substitute commodity in both sectors. Demands, where applicable, are broken down into utilization as food, feed, industrial inputs, and other. Supplies are broken down into domestic production and import relations which attempt to reflect government policy. Even though this study breaks the livestock and grain sectors into its many component parts, the econometric analyses take into account the joint interdependencies of all the components.

The study also projects growth in real G.N.P. at 8.0 percent and population at 0.9 percent annually, through 1980. The rapid growth in per capita income is expected to continue the rapid growth in demand for livestock products. The projected increases in the demand for food and feed grains, along with the projected decline in production of all grains except rice, results in a potentially expanding market, subject to Japanese Government import policies.

2. Role of Institutions and Government Policies on Import Demand--Work is continuing on the analysis of trade policies in importing countries to develop information on the impact of trade and institutional barriers on import demand. A study of Japanese policies affecting grain imports was expanded to include an analysis of the implications for grain imports of three possible food strategies involving alternative sets of Japanese trade and food policies. This area of research is being expanded to cover more commodities and more importing countries.

B. Agricultural Development Banks and Credit Programs

A preliminary report has been prepared on the role of regional development banks in agricultural finance. It surveys the aims, sources of funds and history of various institutions and lists its member countries. Specifics are given on the amount of lendings by these banks that have been directed to the agricultural sector of member countries.

Publications- Reporting Results of USDA Research

RPA 601- EXPANSION OF FOREIGN MARKETS FOR U.S. FARM PRODUCTS

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Elz, Dieter, "Oilseed Product Needs of the European Economic Community, 1970." As indicated by Livestock-Feed and Vegetable-Oil Requirement. Economic Research Service, 1967, 180 pp.

Goolsby, O.H., "Changes in EEC Imports of Commodities Affected by Variable Levy Systems." ERS-Foreign 225, June 1968, 52 pp.

Goolsby, O.H., "Devaluation in Great Britain and What It Means to U.S. Farm Trade." Foreign Agriculture, December 1967, 1 p.

Goolsby, O.H., "Devaluation Abroad and Our Farm Exports." Foreign Agriculture, February 1968, 3 pp.

Jolemore, Gabrielle R. and Kruer, George R., "Reserves Trade and Economic Growth." Foreign Gold and Exchange Reserves No. 4, June 1968, 15 pp.

Kruer, George R., "U.S. Agriculture and the Balance of Payments, 1960-67." ERS-Foreign 224, April 1968, 15 pp.

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Kruer, George R., "U.S. Agriculture and the Balance of Payments." Foreign Gold and Exchange Reserves, No. 4, June 1968, 5 pp.

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Mangum, Fred A. Jr., "The Grain-Livestock Economy of Italy with Projections to 1970 and 1975." Research Report No. 2, Institute of International Agriculture. Michigan State University, East Lansing, Michigan, 1968, 179 pp.

Petit, Michel J. and Viallon, Jean-Baptiste, "The Grain-Livestock Economy of France with Projections to 1970 and 1975." Research Report No. 3, Institute of International Agriculture, Michigan State University, East Lansing, Michigan, 1968, 100 pp.

Regier, Donald W., "Projected Feed Grain Demand in the EEC." Journal of Farm Economics. Vol. 49, No. 5, December 1967, 7 pp.

Regier, Donald W., "Beef a la EEC." Farm Index, December 1967, 2 pp.

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Sorenson, Vernon L., and Hathaway, Dale E., "The Grain-Livestock Economy and Trade Patterns of the European Economic Community with Projections to 1970 and 1975. Research Report No. 5, Institute of International Agriculture, Michigan State University, East Lansing, Michigan, 1968, 126 pp.

Willard, Virginia J., "Regional Integration of the Chemical Fertilizer Industry." ERS-Foreign 232, June 1968, 42 pp.

RPA 602- EVALUATION OF FOOD AID PROGRAMS

None

RPA 603- FOREIGN AGRICULTURAL DEVELOPMENT RESEARCH

None

IV. TRADE STATISTICS AND ANALYSIS

USDA Program

Location of Intramural Work	Scientist Man-Years FY-1968		
	Research Problem Areas		Total
	601	602	
Washington, D.C.	5.6	1.1	6.7
Total	5.6	1.1	6.7

AREA IV--TRADE STATISTICS AND ANALYSIS

Problems and Objectives:

Continuing analyses of U.S. and World Agricultural Trade and World Agricultural Prices are needed to determine trends, problems, and relevant economic factors affecting agricultural trade. This information is needed to provide agricultural producers, trade groups, and Government officials and the public with a flow of statistics and interpretative reports on prospects for exports and imports.

Objectives of this Area include:

1. Assembly, tabulation, summarization of U.S. agricultural export and import statistics as well as interpretations of agricultural trade by commodity, country, commodity-by-country, and country-by-commodity.
2. Estimation and evaluation of short-term, U.S. agricultural export and import prospects.
3. Assembly and summarization of agricultural exports and imports for the world and major economic trading blocs on a commodity-by-country and country-by-commodity bases, as well as interpretations of the changes in the patterns and trends of World Agricultural Trade.
4. Compilation and analysis of international prices of agricultural commodities important to U.S. import and export trade and to determine the relationships among country prices, terms of trade and trends in price movements in principal world markets.
5. Compilation and analysis of quarterly and annual U.S. agricultural exports under Government-financed programs to determine the extent of export assistance to U.S. agricultural exports by export payments, long-term credits to foreign countries, and foreign donations by voluntary agencies or U.S. Government.
6. Develop techniques for measuring and analyzing the cost and benefits of domestic agricultural world trade policies on the pattern and volume of trade in temperate zone agricultural products for selected countries in the Atlantic Community.

Progress - USDA Program

RPA 601 - EXPANSION OF FOREIGN MARKETS FOR U.S. FARM PRODUCTS

A. Analysis of U.S. Agricultural Trade

During fiscal year 1967/68, analyses and statistical reports were published regularly in the monthly issues of Foreign Agricultural Trade of the United States on the U.S. trade outlook, export and import highlights, and trade with the European Economic Community classified by variable and nonvariable-levy commodities. U.S. agricultural products, totaling \$6.3 billion, were exported to over 150 countries. The top 15 accounted for nearly three-fourths of the total.

Special articles in the monthly publications analyzed U.S. agricultural trade with major world trade blocs (the EEC, EFTA, LAFTA, CACM, and COMECON), enlarging on factors and developments affecting U.S. agricultural trade such as ocean freight rates and transportation facilities, commodity agreements, seasonal variations, and the importance of trade balance changes on the balance of payments. The EEC was the major market for U.S. agricultural exports, and received nearly one-fourth of the total. U.S. trade with Eastern European countries--mostly Poland and Yugoslavia--has fluctuated widely from year to year, although imports have grown steadily.

In addition to trade analyses, special articles were prepared showing the estimated quantity and value of U.S. agricultural exports transshipped through Canada, the Netherlands, and other Northern European ports. In 1966, an estimated \$149 million in farm products were transshipped through the Netherlands to West Germany, the United Kingdom, Belgium-Luxembourg, France, Switzerland, Ireland, Denmark, and Sweden. These articles regularly provide agricultural producers, trade groups, and Government officials with a flow of interpretative reports.

B. Analysis and Development of World Agricultural Trade Data

Analyses with statistical tables for agricultural trade were published on the EEC, EFTA, and Latin American countries. These articles are a continuation of overall analyses emphasizing the U.S. trade shares by commodity and value with various country groupings. Agricultural trade of the European Economic Community totaled \$12.9 million in 1966, an increase of 7 percent from 1965. Intra-community agricultural trade accounted for 25 percent of their imports and 55 percent of their exports and grew slightly faster than trade with nonmember countries.

EFTA's agricultural imports from the United States fluctuated but trended downward. Principal suppliers of agricultural products to EFTA in 1966 included the United States, Denmark, New Zealand, Australia, the Netherlands, Canada, and Ireland.

The United States is a large market for Latin American coffee, cocoa beans, carpet wool, and bananas. U.S. agricultural imports from Latin America were more than three times the value of agricultural exports to Latin American countries in 1966. EEC agricultural imports from Latin America totaled \$2 billion in 1966, while those of EFTA totaled \$1 billion. Brazil and Mexico were the principal trading partners of the United States.

Data are available in special tabulations from the United Nations Statistical Office on a country by commodity and trade bloc by commodity approach. In addition to published material, plans were completed to have trade data on OECD magnetic tapes compiled and printed on camera copy suitable for publication.

C. Analysis of World Agricultural Prices

1. Price Effects of International Grains Arrangement-A paper, "Price Objectives of the International Grains Arrangement and Their Origins," was submitted for publication. This paper analyzed the effects of higher IGA price levels on the world wheat economy. The higher new price objective is related to Pisani-Plan of 1961.
2. EEC Grain Prices and U.S. Exports-Italian feed grain imports from the U.S. rose to 2.8 million tons in 1966. Their future is affected by sharply increased import levies with additional increases to come. An analytical inventory of grain price reporting in Italy is nearing completion.
3. Price Indexes and Terms of Trade-U.S. agricultural imports attained new records in 1966, partly due to higher prices. In 1967, price indices of U.S. foreign agricultural trade declined from 1966. The terms of trade turned slightly unfavorable for U.S. agricultural trade; but the agricultural export price levels of developed areas, based on 1958, had risen while that of developing areas had fallen. Selected price series of international significance were prepared for publication.
4. Analysis of the Bracero Program-The expiration of the bracero program was associated with declines in U.S. strawberry and white asparagus production and increases in Mexican strawberry production and U.S. strawberry imports. The loss to Mexico of bracero receipts occurred with a U.S.-Mexican combined trade and travel balance of over \$200 million in favor of the U.S. This gap tended to be closed by U.S. direct investments and by loans.

D. Agricultural Protectionism and Internal Trading Arrangements

1. Abstract of Pricing in the World Feed Grain Market-A conceptual framework useful in exploring past world feed grain price behavior and for suggesting important variables, structural and behavioral, likely to affect future price movements is presented. Corn prices are used as a proxy for feed grain prices. The total demand for feed grains including grower-fed grains, is derived from the demand for meat. The U.S. market for feed grains is assumed essentially

competitive though CCC operations have actual and potential price influences; and the volume and stock dominance of the U.S. makes it the price-setting market for world trade. World import demand is derived by netting importers' domestic supply and demand functions. Given the nature of EEC and U.K. programs, the import demand for feed grains is largely unresponsive to changes in world price. Net supply functions from other exporters are derived in a similar fashion. These functions are added to U.S. domestic functions to form world supply and demand schedules. The CCC is conceptualized as a perfectly elastic demander at the loan rate and a perfectly elastic supplier at a policy-determined selling out price within the limits of stock availability. A review of the post-war feed grain market, while indicating exceptions, confirms the validity of the general features of the model and shows the dominant influence of U.S. feed grains policy in world feed grain pricing.

2. Abstract of Nonequilibrium Fixed-Price Schemes in Agricultural Trade- Graphic analyses of an equilibrium price system and of a nonequilibrium fixed-price system were presented. The implications for importers and exporters, each trading at world prices or maintaining internal prices above world prices, were analyzed. The critical relationship was the elasticity of aggregate import demand. Project was terminated.

RPA 602 - EVALUATION OF FOOD AID PROGRAMS

A. U.S. Agricultural Exports Under Food Aid (Government-Financed) Programs

Regularly published analyses and statistical reports include exports under Food Aid programs, commercial, and total agricultural exports (1) by commodity, quantity and value, for fiscal year quarters and calendar years; (2) by country, value only, for fiscal and calendar years; (3) extent of export payment assistance to agricultural exports by commodity, fiscal years; and (4) time series and trend analyses which show long-run impact of Government-financing of agricultural exports. A 12-year study by commodity and country for fiscal years and a similar calendar year study (including a series for Title II donations revised for greater comparability with Census reports and revisions in all other data) were published. A feasibility study is underway to determine the possibility of summarizing urgently needed country-by-commodity and commodity-by-country information from available statistical series. A major revision in the classification of exports under the barter program recently approved by the USDA Statistical Review Committee will involve extensive changes in the reporting of food aid and commercial exports back to 1963. These changes will be made as soon as revised data become available from FAS.

Publications- Reporting Results of USDA Research

RPA 601- EXPANSION OF FOREIGN MARKETS FOR U.S. FARM PRODUCTS

A. Analysis of U.S. Agricultural Trade

Corley, Joseph R., "Transporting Grain to Ports for Export," FATUS, July 1967.

Corley, Joseph R., "U.S. Agricultural Exports Reach Another Record Level in 1966/67," FATUS, August 1967.

Corley, Joseph R. and DeWolfe, Mildred R., "The Role of Air Carriers in Our Expanding Agricultural Exports," FATUS, October 1967.

Tontz, Robert L., Rahe, Dewain H., and Corley, Joseph R., "U.S. Exports of Agricultural Commodities in 1967/68," FATUS, December 1967.

Corley, Joseph R., "U.S. Agricultural Exports Decline in 1967 from 1966 Level," FATUS, Feb.-Mar. 1968.

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Warden, Thomas A., "Transshipments of U.S. Agricultural Products Through the Netherlands," FATUS, May 1968.

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Corley, Joseph R., "Agricultural Trade of Latin American Countries," FATUS, April 1968.

Hirsch, Hans G., "Effects of Changes in Use of Seasonal Workers on U.S.-Mexican Agricultural Trade and Balance of Payments," ERS-Foreign 195, August 1967.

Miller, Ann, "Italy, A Leading Market for U.S. Corn," FATUS, October 1967.

Miller, Ann, "U.S. Agricultural Imports, 1966: Total Value and Volume Increase as Market Sources Shift," FATUS, October 1967.

Hirsch, Hans G., "First-Quarter 1967 U.S. Export and Import Prices Up," FATUS, August 1967.

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"U.S. Foreign Agricultural Trade by Commodities, Calendar Year 1965," Supplement, July 1966.

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RPA 602- EVALUATION OF FOOD AID PROGRAMS

DeBlois, Eleanor N., "12 Years of Achievement under Public Law 480," ERS-Foreign 202, November 1967.

DeBlois, Eleanor N., "Supplement to ERS-Foreign 202, 12 Years of Achievement under Public Law 480," ERS-Foreign 205, March 1968.

DeBlois, Eleanor N., "Increased Dollar Exports in Fiscal Year 1966/67 Bring U.S. Exports of Farm Products to Record Level for Fourth Consecutive Year," FATUS, November 1967. Reprinted as ERS-Foreign 206.

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